Test applications of the classification system in SINDOC(81)14

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TEST APPLICATIONS OF THE CLASSIFICATION SYSTEM IN SINDOC(81)14

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Event descriptions are from Nuclear Power Experience, 1979, vol. PWR-2, XVI. Operational Problems, C. Miscellaneous, pp 217-20.

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NPE NO	200			
DOCKET NO	50269 50270	Laundry system common for 2 reactors (1)		
MALF. NO	1/2	omission of change of written procedures before operation		
D EVENT DETECTION	6			
E PLANT STATE	11	Laundry system: not part of plant, category not relevant.		
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.1	HA1.2	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	4	assumed		
K PERSON. LOCATION	7	location for change of procedures assumed		
L PERSON. TASK	2			
M EXT. MODE OF MALF.	1.1			
N POTENTIAL FOR SELF CORRECT.	1.1			
P SITUATION FACT.	P1.3	P2.6	P3.6	
Q INT. HUM. MALF.	4.1			
R CAUSE OF HUM. MF.	4.1			
S MECH. OF HUM. MF.	7	ALTERN. 3.1		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6	
DATE OF FINISHING ANALYSIS	DMP 21/8-81			

800. LAUNDRY TANK INADVERTENTLY RELEASED - VALVING ERROR

Oconee 1 & 2 - May 79 - 100% power & shutdown

They inadvertently released 2335 gal of water from laundry and hot shower tank (LHST) A without a sample being taken prior to the release, as required by Tech Specs. Initially an attempt was made to discharge water from LHST B, which had been sampled previously, but no flow was indicated (the LHST B pump discharge filter was found to be obstructed). Since a review of valve positions revealed no misalignment the decision was made to align the LHST A discharge pump to LHST B. About 19 min later the discharge was secured, and it was discovered that the LHST B pump had inadvertently been aligned to LHST A, emptying that tank rather than LHST B. Prior to admitting any further liquid to LHST A, a sample was taken from the tank's pump drain, and an analysis indicated that the quantity released was very small with respect to Tech Spec limits.

Prior to performing the realignment, a change should have been made to the procedures for draining the tank, but this was not done. In addition, the error was facilitated by a lack of identifying markings on the tanks and their associated piping and pumps.

TAXONOMIC NEEDS IDENTIFIED (1)

VALUE AS EXAMPLE

LER NO	800			
DOCKET NO	50267 50270			
MALF. NO	2/2	mistake pump A aligned to system B for pump B aligned to system A		
D EVENT DETECTION	6			
E PLANT STATE	11			
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.2	HA1.3	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	6	assumed		
K PERSON. LOCATION	4			
L PERSON. TASK				
M EXT. MODE OF MALF.	2,2			
N POTENTIAL FOR SELF CORRECT.	1.1			
P SITUATION FACT.	P1.3	P2.6	P3.6	
Q INT. HUM. MALF.	4.1			
R CAUSE OF HUM. MF.	4.1			
S MECH. OF HUM. MF.	3,2	ALTERN.		
T PERF. SHAP. FACT.	T1.6	T2.1	T3.6	
DATE OF FINISHING ANALYSIS	OMP 24/8-81			

An analysis of the sample taken from LHST A subsequent to the release indicated that radionuclide concentrations were low enough to permit a discharge flow rate of ~ 460 gpm without exceeding any Tech Spec limits. In addition, the release was monitored by 2 detectors on the discharge line, one of which was calibrated to trip at a count rate of 33,000 cpm, and the other at 500 cpm, so the release would have been terminated if the concentration had been too high. The max count rates recorded by the 2 detectors were 17,000 and 10 cpm, respectively.

The 2 tanks and their associated equipment were clearly marked and colorcoded to eliminate confusion. All valves which could allow unsampled liquid to enter LHST B during a release were to be locked in the closed position, and the operating procedures were changed to reflect that fact. Additional changes were made to all liquid waste disposal procedures to assure that the correct pump/tank combination was verified both before and during releases. In addition, the personnel involved in the incident were counseled to assure understanding of the procedures. (iax,hxs)

Comment:
Malf. 2 is considered causally independent of malf. 1 and therefore should be recorded, although malf. 2 is conditionally dependent of malf. 1.

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

M'E NO	801			
DOCKET NO	50261			
MALF. NO	X	breakers not racked in		
D EVENT DETECTION	3	Special inspection = [illegible]		
E PLANT STATE	3			
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.2	HA1.7	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	4	assumed		
K PERSON. LOCATION	2	assumed		
L PERSON. TASK				
M EXT. MODE OF MALF.	1.2	/	miss. of racking in breakers	
N POTENTIAL FOR SELF CORRECT.	2	they believed it was ok		
P SITUATION FACT.	P1.1	P2.6	P3.6	
Q INT. HUM. MALF.	3.2			
R CAUSE OF HUM. MF.	2.3	/	ambiguous procedures	
S MECH. OF HUM. MF.	2.2	ALTERN.	procedures misinterpreted	
T PERF. SHAP. FACT.	T1.4	T2.4	T3.6	1.4 conflicting goals: -prevent overpressure from unintentional safety injection -prevent reduced safety preparedness
DATE OF FINISHING ANALYSIS	DMP 21/5/81			

Comment:
Ops not alerted by de-energized indicating lights : Not to be recorded as a malf. as the state was known and supposed to be ok as they knew that the pumps were racked out

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

901. ST & CS PUMP BREAKERS FOUND RACKED OUT DURING PLANT HEATUP

Robinson 2 - Nov 77 - startup

During a RCS heatup from cold shutdown following a 4 wk maintenance outage, a shift Minimum Equipment List was being completed when it was noted that the breakers for the 3 SI pumps and 2 Containment Spray (CS) Pumps were racked out rendering them inoperable. Operability tests had been completed on these 5 pumps ~5 hr before the heatup was started and the breakers were then racked out in accordance with operating procedures governing over-pressurization protection. The plant heatup was started in accordance with GP-1A, Overall Plant Operating Procedure, Plant Heatup from Ambient Temperature to Hot Shutdown Conditions. This procedure had an accompanying check-off list which required that the SI and Containment Spray Pumps be operable as an initial condition to heatup. As the pumps were verified operable before heatup was started, the appropriate conditions were initialed as satisfied. RCS temperature exceeded 200°F, which constituted a hot shutdown condition, ~ 15 min after the heatup was initiated. The breakers were found to be open ~ 5 1/4 hr after heatup was started. Upon discovery, the RCS was 320° and 400 psig and the breakers were promptly racked in.

Investigation revealed the cause of this occurrence as as failure to recognize the Tech Spec requirement that these pumps be "operable" and "in-service" prior to going above a primary system temperature of 200°F. It was wrongly assumed that the pumps, like the accumulators, would be placed in service during the heatup. The terms "operable" and "in-service", in this case, were used to distinguish between 2 different conditions of equipment status. Operable was assumed to indicate satisfactory completion of the required operability verifications although the pump, with no power supply, was considered out of service. Plant Procedure GP-10, Plant Cooldown from Hot Shutdown to Cold Shutdown Condition, specifically required that the breakers for these pumps be racked out at < 200°F. However, GP-1A stated only that the pumps be operable. Therefore, a misunderstanding of the requirements of the term "operable" led to the wrong assumption that the completed check list satisfied Tech Specs. Due to interpretation of terms, it was considered the operating procedure did not accurately and concisely reflect the requirements of the Tech Specs. With the breakers racked-out for these pumps, the pump indicating lights on the Reactor Turbine Generator Board were de-energized. Although the operators completing the Minimum Equipment List and the GP-1A check list were guided by the assumptions related above, the lack of indication for these components should have alerted them to the abnormal condition. However, due to reliance on the operating procedures and concern for over-pressure protection until a bubble was in the pressurizer, the operators involved did not note this as abnormal.

At the time of the occurrence, RCS boron concentration was at the cold shutdown value of 915 ppm (-4% Δ K/K). With this amount of negative reactivity, a steam line break would have been inconsequential from a reactor safety standpoint. Additionally, the decay heat present after the 4 wk shutdown would have imposed no threat to fuel clad integrity in the event of a LOCA.

GP-1A and other applicable procedures were to be revised to insure that there was no mistaking of the term operable or its requirements. Additionally, the individuals involved were admonished concerning the occurrence and all operations personnel were to review the requirements for heatup and criticality as described in GP-1, the Minimum Equipment List and Tech Specs. (hxu,hxv)

NPE NO	802			
DOCKET NO	50285			
MALF. NO	X			
D EVENT DETECTION	3			
E PLANT STATE	11	when the malf. occurred.		
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.2	HA1.	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	4	assumed		
K PERSON. LOCATION	2	assumed		
L PERSON. TASK	13	when the malf. occurred		
M EXT. MODE OF MALF.	1.3			
N POTENTIAL FOR SELF CORRECT.	1.1	assumed		
P SITUATION FACT.	P1.6	P2.6	P3.6	
Q INT. HUM. MALF.	4.2	assumed		
R CAUSE OF HUM. MF.	6			
S MECH. OF HUM. MF.	5.1	ALTERN.	assumed	
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6	
DATE OF FINISHING ANALYSIS	OMP 21/8·81			

902. 480V CIRCUIT BREAKER RACKED IN IMPROPERLY

Ft. Calhoun 1 - Apr 79 - 100% power

During the performance of a surveillance test, containment spray pump SI-3B failed to start by control switch. The GE type AK-25, 480 V circuit breaker was apparently racked in beyond the connected position resulting in a binding of the breaker causing trip free action when operated by control switch. The breaker was racked out and racked back in. Its trip and close functions were checked and retested satisfactorily. The operating manual was being updated to provide the proper method of racking in and racking out both 480 V and 4160 V circuit breakers. This, along with the existing operator training program would prevent a recurrence. (hxz)

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

LER NO	804				
DOCKET NO	50309				
MALF. NO	X	Assumption = malf. occurred when reading values from calibration curve			
D EVENT DETECTION	5.1				
E PLANT STATE	11	When malf. occurred			
F SYST. AFFECTED					
H COMP. AFFECTED					
HA ACTIONS TAKEN	HA1.2	HA1.	HA1.		
G CONSEQUENCES	G2.	G1.	G1.4.	GK.	
J PERSON. IDENT.	4	assumed			
K PERSON. LOCATION	1	assumed			
L PERSON. TASK	2	transposing data --- to the procedure			
M EXT. MODE OF MALF.	1.3		assumed		
N POTENTIAL FOR SELF CORRECT.	1.1	assumed			
P SITUATION FACT.	P1.1	P2.6	P3.6		
Q INT. HUM. MALF.	4.3				
R CAUSE OF HUM. MF.	4.1		ass.		
S MECH. OF HUM. MF.	2.2	ALTERN. 7	when reading values from curve		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6		
DATE OF FINISHING ANALYSIS	CMP 21/8-81				

804. SG PRESSURE BISTABLE SET INCORRECTLY

Maine Yankee - May 79 - shutdown

In preparation for performing surveillance testing prior to startup, it was determined that the RPS SG low pressure trip bistables had been incorrectly set at ~ 415 psig instead of the required 485 psig during the first part of operation of Cycle 4. They found the error occurred when transposing data from the transmitter calibration sheets to the procedure which determined the bistable setpoints. Both the calibration sheets and the procedure were being revised to more clearly relate actual pressure setpoints to circuit voltage readings. A master RPS setpoint form was also being generated to provide an improved method for obtaining the necessary setpoint data required for the individual monthly surveillance procedures. All other RPS setpoints were reviewed and found to be correct. A reanalysis was performed using the incorrect setpoint which concluded that there were no adverse effects upon the margin of safety. (hzx)

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

MFE NO	805			
DOCKET NO	50302			
MALF. NO	1/3	The diesel rep. man does not check clearance for test of diesel		
D EVENT DETECTION	6			
E PLANT STATE	9			
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.1	HA1.	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	11			
K PERSON. LOCATION	4			
L PERSON. TASK	7.1			
M EXT. MODE OF MALF.	1.2	/		
N POTENTIAL FOR SELF CORRECT.	1.1			
P SITUATION FACT.	P1.1	P2.6	P3.6	1.1 assumption: the rep man was familiar with the total task from previous occasions
Q INT. HUM. MALF.	4.1	he started testing before checking clearance		
R CAUSE OF HUM. MF.	4.1	/		assumed
S MECH. OF HUM. MF.	3,1	ALTERN.		assumed
T PERF. SHAP. FACT.	T1.1	T2.6	T3.6	1.1 to avoid delay
DATE OF FINISHING ANALYSIS	OMP 21/8-81			

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

805. FIRE PUMP TESTED WITHOUT PRIOR CLEARANCE

Crystal River 3 - May 79 - refueling

It was discovered that both diesel driven fire service pumps, FSP-2A and 2B, were inoperable. Investigation revealed that a clearance had been issued for the yearly inspection of Fire Service Pump FSP-2B. However, the diesel mfr. rep, in an effort to avoid delay, disconnected the starter on FSP-2A without maintenance personnel assistance and proceeded to perform the required testing. Maintenance personnel assigned to the job arrived at the jobsite and assisted the mfr's rep. During the performance of the testing it was discovered that FSP-2A was not under clearance. Supervisory personnel were notified and FSP-2B was returned to service. Personnel involved were instructed on the importance of adhering to approved procedures and on proper maintenance practices. (iag)

MFE NO	805			
DOCKET NO	50302			
MALF. NO	2/3	rep man selects wrong diesel		
D EVENT DETECTION	6			
E PLANT STATE	9			
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.1	~~HA1.~~	~~HA1.~~	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	11			
K PERSON. LOCATION	4			
L PERSON. TASK	7.1			
M EXT. MODE OF MALF.	2.2	/		
N POTENTIAL FOR SELF CORRECT.	1.1			
P SITUATION FACT.	P1.1	P2.6	P3.6	1.1 assumption: the rep was familiar with the total task from previous occasions.
Q INT. HUM. MALF.	4.1			
R CAUSE OF HUM. MF.	4.1			assumed
S MECH. OF HUM. MF.	3.2	ALTERN.		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6	
DATE OF FINISHING ANALYSIS	OMP 21/8-81			

Comment:
Malf. 2 is considered causally independent of malf. 1 and therefore should be recorded, although malf. 2 is conditionally dependent of malf. 1

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

LER NO	805			
DOCKET NO	50302			
MALF. NO	3/3			
D EVENT DETECTION	6			
E PLANT STATE	9			
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.1	HA1./	HA1./	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	7.1	mech. maintenance personnel		
K PERSON. LOCATION	4			
L PERSON. TASK	7.1			
M EXT. MODE OF MALF.	1.2	/		
N POTENTIAL FOR SELF CORRECT.	1.1	assumed		
P SITUATION FACT.	P1.1	P2.6	P3.6	
Q INT. HUM. MALF.	1			
R CAUSE OF HUM. MF.	1.2	/		
S MECH. OF HUM. MF.	1.1	ALTERN.		
T PERF. SHAP. FACT.	T1.6	T2.4	T3.1	
DATE OF FINISHING ANALYSIS	OMP 21/8-81			

Interpretation 1 :
plant maintenance personnel do not detect rep's choice of wrong diesel.

distraction by rep man already being busy with test work, choice of diesel is a thing of the past

2.4 : "personnel were instructed ---- "
3.1 = assumption: maintenance personnel knew rep man as a well-reputed craftsman

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

LER NO	805			
DOCKET NO	50 302			
MALF. NO	3/3			
D EVENT DETECTION				
E PLANT STATE				
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.	HA1.	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.				
K PERSON. LOCATION				
L PERSON. TASK				
M EXT. MODE OF MALF.				
N POTENTIAL FOR SELF CORRECT.				
P SITUATION FACT.	P1.	P2.	P3.	
Q INT. HUM. MALF.	4.1			
R CAUSE OF HUM. MF.				
S MECH. OF HUM. MF.	3.1	ALTERN.		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.3	
DATE OF FINISHING ANALYSIS	OMP 24/8-81			

Interpretation 2 =
plant maintenance personnel do not check clearance for test of diesel

forget isol. act = to check clearance

3.3 assumptions = maintenance personnel were late .

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

LER NO	806			
DOCKET NO	50272			
MALF. NO	1/2	penetrations were not properly sealed		
D EVENT DETECTION	3			
E PLANT STATE	1	when malf. occurred		
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.9	HA1.	HA1.	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	10			
K PERSON. LOCATION	4			
L PERSON. TASK	4	assumed		
M EXT. MODE OF MALF.	1.3			
N POTENTIAL FOR SELF CORRECT.	2			
P SITUATION FACT.	P1.6	P2.6	P3.6	
Q INT. HUM. MALF.	4.2	assumed		
R CAUSE OF HUM. MF.	6			
S MECH. OF HUM. MF.	7	ALTERN.		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6	
DATE OF FINISHING ANALYSIS	OMP 21/8-81			

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

806. PENETRATION FIRE BARRIERS IMPROPERLY SEALED

Salem 1 - May 79 - refueling

They conducted the 18 mo surveillance inspection of penetration fire barriers as required by Tech Specs. One penetration was found open, no fire barrier material installed. Three other penetrations were found to be inadequately sealed. The Tech Spec, Action Statement, stated that with one or more of the required penetration fire barriers non-functional, establish a continuous fire watch on at least one side of the affected penetration within 1 hr. Upon discovery of the non-functional fire barriers, a fire watch was stationed and the fire barriers were repaired. The deficient penetrations were properly sealed with an approved sealant.

Procedures for penetration sealing were reviewed and verified to be satisfactory. These penetrations were believed to be improperly sealed during the construction phase of the station. The cause of this occurrence was found to be personnel error in that these penetrations were not noted as having deficient fire barriers during a penetration inspection conducted in Nov 78. The inspection which discovered the deficient fire barriers was the first of the Tech Spec 18 mo. surveillances to be performed. See XVI. C. 643 & 767 for previous similar occurrences. (iaj)

MFE NO	806			
DOCKET NO	50272			
MALF. NO	2/2	improper seals not detected by inspection		
D EVENT DETECTION	3			
E PLANT STATE	11	during the inspection inspection nov. 78		
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.9	HA1. /	HA1. /	need for subcategory = No actions taken? (1)
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	14			
K PERSON. LOCATION	4			
L PERSON. TASK	5			
M EXT. MODE OF MALF.	1.3	/	assumed	
N POTENTIAL FOR SELF CORRECT.	2			
P SITUATION FACT.	P1.1	P2. 6	P3. 6	assumed
Q INT. HUM. MALF.	1			
R CAUSE OF HUM. MF.	6	/		
S MECH. OF HUM. MF.	2.1	ALTERN.	assumed	
T PERF. SHAP. FACT.	T1. 6	T2. 6	T3. 6	
DATE OF FINISHING ANALYSIS	Okt 21/8-81			

TAXONOMIC NEEDS IDENTIFIED (1)

VALUE AS EXAMPLE

MFE NO	807				
DOCKET NO	50334				
MALF. NO	X	plant test & maintenance people adjusted to nominal setpoints instead of fine tuning			
D EVENT DETECTION	3				
E PLANT STATE	11				
F SYST. AFFECTED					
H COMP. AFFECTED					
HA ACTIONS TAKEN	HA1.2	~~HA1.~~	~~HA1.~~		
G CONSEQUENCES	G2.	G1.	G1.4.	GK.	
J PERSON. IDENT.	7	assumed			
K PERSON. LOCATION	2	assumed			
L PERSON. TASK	7.3				
M EXT. MODE OF MALF.	1.3				
N POTENTIAL FOR SELF CORRECT.	2				
P SITUATION FACT.	P1.3	P2.6	P3.6		1.3 assumed
Q INT. HUM. MALF.	4.1				
R CAUSE OF HUM. MF.	6				Perhaps 2.3
S MECH. OF HUM. MF.	7	ALTERN.			
T PERF. SHAP. FACT.	T1.6	T2.4	T3.6		2.4 : "procedure revised--"
DATE OF FINISHING ANALYSIS	OMP 24/8-81				

807. CONTROL ROOM PRESSURE CONTROLLERS CALIBRATED IMPROPERLY

Beaver Valley 1 - May 79 - shutdown

During a test on the control room habitability system, the pressure regulators for control room pressurization were observed cycling. The test was suspended and an investigation was commenced to determine the cause of the malfunction. The cycling might have caused insufficient air capacity to pressurize control room for the required hour. Pressurization fan was operable for backup. They found the pressure controllers had been calibrated with nominal gain and reset values instead of fine tuning the controllers which caused the valves to cycle. The controls were tuned and the procedure revised to incorporate the exact gain and reset values. (iat)

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE

NPE NO	808			
DOCKET NO	50295			
MALF. NO	X			
D EVENT DETECTION	4.4	need of new subcategory: detected by direct functional effect (1)		
E PLANT STATE	5			
F SYST. AFFECTED				
H COMP. AFFECTED				
HA ACTIONS TAKEN	HA1.9	HA1. ~~/~~	HA1. ~~/~~	
G CONSEQUENCES	G2.	G1.	G1.4.	GK.
J PERSON. IDENT.	4			
K PERSON. LOCATION	1			
L PERSON. TASK	10	dating recorder charts		
M EXT. MODE OF MALF.	3	~~/~~		
N POTENTIAL FOR SELF CORRECT.	2			
P SITUATION FACT.	P1.1	P2.6	P3.6	
Q INT. HUM. MALF.	4.2			
R CAUSE OF HUM. MF.	4.1	~~/~~		
S MECH. OF HUM. MF.	5.1	ALTERN. ~~/~~		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6	
DATE OF FINISHING ANALYSIS	OMP 24/8·81			

808. CONTROLLER INADVERTENTLY BUMPED - RCS LOW PRESSURE LIMIT EXCEEDED

Zion 1 - May 79 - 100% power

While the operator was performing daily chart dating, the pressurizer spray valves opened to 50% demand and the RCS pressure decreased to 2160 psig. The pressure was below the Tech Spec lower limit of 2205 psig for ~20 min. Cause for the sudden pressure decrease was the operator inadvertently bumping the potentiometer on the pressurizer pressure master controller while dating charts. This caused the spray valves to open. The operator immediately identified the problem and restored the RCS pressure to normal.

(iau)

TAXONOMIC NEEDS IDENTIFIED (1)

VALUE AS EXAMPLE

MFE NO	810				
DOCKET NO	50261				
MALF. NO	X				
D EVENT DETECTION	1	assumed			
E PLANT STATE	9				
F SYST. AFFECTED					
H COMP. AFFECTED					
HA ACTIONS TAKEN	HA1.7	HA1.	HA1.		
G CONSEQUENCES	G2.	G1.	G1.4.	GK.	
J PERSON, IDENT.	4	assumed			
K PERSON. LOCATION	1	assumed			
L PERSON. TASK	8.4				
M EXT. MODE OF MALF.	2.1				
N POTENTIAL FOR SELF CORRECT.	1.2				
P SITUATION FACT.	P1.1	P2.6	P3.6	assumed	
Q INT. HUM. MALF.	3.2				
R CAUSE OF HUM. MF.	2.3		"operators were to be instructed ----"		
S MECH. OF HUM. MF.	1.1	ALTERN. 4	assumed		
T PERF. SHAP. FACT.	T1.6	T2.6	T3.6		
DATE OF FINISHING ANALYSIS	OMP 24/8 -81				

810. SOURCE RANGE DETECTOR VOLTAGE LOST DURING INSTRUMENT BUS SWITCHOVER

Robinson 2 - May 79 - refueling

Voltage was lost on source range detector number N-32 due to instrument bus 2 being switched from MCC 8 to inverter "A". Refueling operation was stopped and restarted when voltage was returned to the detector 2 min later. Instrument bus 2 was being switched from MCC 8 to inverter "A" after inverter "A" had been returned to service following required maintenance. The switchover returned instrument bus 2 to its normal position. Operators were to be instructed that such a switchover to instrument bus 2 would cause momentary voltage loss to detector N-32 and should not be performed while refueling operations were underway (hwz)

TAXONOMIC NEEDS IDENTIFIED

VALUE AS EXAMPLE